

MISSOURI CONSERVATIONIST

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A Growing Program

Grow Native! is a popular program designed to raise public awareness of the importance of using native plants in both rural and urban settings. The Missouri Department of Conservation started Grow Native! three years ago, and the response from concerned citizens and horticultural businesses has been wonderful.

Missouri is home to more than 2,000 native plant species, including wildflowers, shrubs, trees, vines and grasses. The diversity and quantity of these plants has declined, however, as they have been replaced with non-native species and crops. Urban growth and the use of herbicides have also contributed to the problem. Reversing the decline in native plant species and restoring lost natural habitat are critical to preserving and restoring Missouri's native biodiversity.

The *Grow Native!* program is designed to increase demand for Missouri native plants for both landscaping and agricultural cropping. The program takes a free market approach to reversing the decline in native species by building partnerships among private industry, non-profit organizations, government agencies and landowners.

The *Grow Native!* website, www.grownative.org, provides more information about the program, and about native plants of the Midwest.

Today, there are more than 100 business members of *Grow Native!* Members consist of wholesale growers, retail nurseries and landscaping providers. Several high school Future Farmers of America (FFA) chapters are engaged in contract horticulture projects, learning about native wildflowers and prairie grasses while earning money to support their local organizations. Affiliate organizations lending support to the program include the Missouri Botanical Garden, Shaw Nature Reserve, Powell Gardens and Audubon Missouri.

Grow Native! also depends on public partnerships. For example, the Conservation Department and the Missouri Department of Transportation obtained federal funds to train private contractors to plant up to 1,000 acres of native plants along Missouri highways. The native plants encourage biodiversity as they brighten our roadsides.

Recently, the Conservation Department teamed with the Missouri Department of Agriculture, which has the expertise and programs in place to provide business support to Missouri's *Grow Native!* members. The



Department of Agriculture's mission is to increase the profitability of Missouri's farmers and agribusinesses and to increase sales of products grown, raised and processed in Missouri. A close partnership between our state agencies will benefit the citizens, businesses and natural resources of Missouri.

We are truly excited about *Grow Native!* and the program growth that this new partnership makes possible. The Department of Conservation will continue strong financial support for the program and focus on enhancing *Grow Native!* through its public education and information services.

We are proud of the enthusiastic, creative Conservation Department employees who have taken *Grow Native!* farther and faster than anyone imagined when it was launched in 2000. We're excited to report that the program's future is brighter because it is based on a new foundation of cooperation and partnership. The real payoff for Missouri citizens will come when biodiversity and the quality of wildlife habitat on both public and private land show real improvement.

John D. Hoskins, Director

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DAPPING STONES

My hearty compliments on the “Ye Old Stone Skippers” sidebar to the wonderful “A Peek at a Creek” piece in the *Outside In* section of the February *Missouri Conservationist*.

An enthusiastic rock (that’s what we call ‘em in the Ozarks) skipper with more than 50 years of experience, I’d like the younger generation to know that “dap-ping” also is a valid word describing this activity. Much of my earlier dapping involved competition with my long-armed Arkansas cousin, who was two years my senior and usually beat me. I doubt that either of us had heard of a physicist, but we knew instinctively that good spin helped us achieve our goal: to skitter the “perfect” flat rock all the way across the creek and onto the gravel bar across the river.

John R. Stanard, Poplar Bluff

FAST WATER

I thoroughly enjoyed the special issue the *Missouri Conservationist* devoted to Lewis and Clark. However, the article the “Wild Missouri” in the January issue contained a passage on the velocity measurements of the Missouri River left the impression that the river velocity

was 23.66 miles per hour near present-day Waverly.

Unless the present laws of physics did not apply in 1804, Clark’s measurement is in error. A velocity of 23.66 miles per hour would require an impossible river slope.

The most likely explanation for the error is that Clark’s units of “poles” probably should have been “fathoms”. All the rest of Clark’s measurements were made using a logline marked off in fathoms. A stick (or log) was tied to the end of a logline to anchor the end of the rope in the water as the logline spooled off a reel. If one uses fathoms instead of poles, the river velocity measurement is 8.5 miles per hour, which is still very fast, but at least within the range of subsequent measurements made at that site.

In fact, a piece of tantalizing evidence for this error is contained in the quote itself: “The Current of the River at this place is a Stick will float 48 poles 6 feet in the rapidest part.” Because a fathom is 6 feet, the insertion of “6 feet” into this sentence may have been Clark’s attempt to correct the error himself, not an addition to the distance traveled by the stick.

Nevertheless, Clark’s velocity measurements certainly call into question

the common modern paradigm that today’s Missouri River is much faster than the river ascended by the Corps of Discovery in 1804. Indeed, the Missouri River was notoriously fast, as noted by Lewis and Clark and many river travelers who would follow.

Dale Blevins, Hydrologist, U.S.G.S., Lee’s Summit

GARAGE FILES

Thank you for wonderful, eye-opening natural beauty you’ve shared with us through the years.

My son mentioned frost flowers in the mountains of North Carolina, and I recalled an article and dashed to the garage. Sure enough, in the October 2000 issue I found the article and pages of photos.

What a reference library these magazines are!

Dorothy Thomason, Springfield

BIRDS OF A FEATHER

I am a recently relocated native Missourian living in Texas, and I was delighted to see the cover of your February issue. I instantly recognized the erect pinnae, the thick yellow brows and yellow air sack of the prairie chicken.

I am the lead supervisor of birds for the Abilene Zoo, and we currently are holding 13 Attwater’s prairie chickens for captive breeding purposes.

Kudos to Sharron Gough for her efforts in prairie restoration for the Conservation Department. I hope Missourians make room for this special little grouse. You don’t want to let prairie chicken numbers to get as low as those of the Attwater’s. They are part of your heritage, and once they are gone there is no way back.

Diane Longenecker, Abilene

CUT THE LINE

Regarding Missouri’s Big Game Fish on Page 17 of your February issue, I also put out trotlines on the Mississippi River and have caught a 70-pound blue cat. It did



Morel Bouquet

Richard Dowell and his son, Derek, were hunting morel mushrooms on his father-in-law’s farm in Caldwell County last spring when they found a mushroom that had 32 individual mushrooms tops attached.

concern me, however, that the article said little about the dangers of trotlining.

You should always have a very sharp knife on you and on the front of the boat to cut the line if someone was to get a hook in them. The strong current can take a full-grown man under very easily.

Mike Ponder, Altenburg

GEM OF AN ISSUE

Your January issue was a wonderful trib-

ute to Lewis and Clark. The artwork was exceptional, making the magazine a true "collector's item."

As a teacher, I can only hope that other educators use this accurate, history-filled issue in their classrooms. Over the years, I have enjoyed using *Conservationist* magazines as training aids. They are perfect for building units in history, reading, science and art.

Claudia Stubblefield, Stoutland

The letters printed here reflect readers' opinions about the Conservationist and its contents. Space limitations prevent us from printing all letters, but we welcome signed comments from our readers. Letters may be edited for length and clarity.

Ask the Ombudsman



Q. The summer of 2002 we had what we thought was a mother turkey with seven chicks on our property for several weeks, but "she" had a beard. Is this possible?

A. Bearded turkey hens (like antlered doe deer) do exist. The following excerpt from the spring turkey hunting brochure describes how to tell a gobbler from a hen:

Large size, black body and long beard are marks of the gobbler.

Hens sometimes have beards, but color, size and behavior distinguish them from gobblers. Hens are smaller, brown birds with blue heads. Bearded hens produce young and help increase the turkey population. They should not be killed, but any turkey with a clearly visible beard is legal in Missouri. Hens without beards are illegal and must not be killed. The future of our wild turkey hunting depends on you.

Q. Our 12-year-old daughter wants to hunt the youth portion of the turkey season, but we're not sure what permit she needs.

A. If your daughter has completed hunter education, she can use a Spring Turkey Hunting Permit. That permit also is valid for a youngster qualifying for the youth portion of the season.

Youths from age 15 down to age six who have not had hunter education certification must use the Youth Deer and Turkey Hunting Permit. Holders of this permit have a reduced limit for the turkey seasons and they must be accompanied by an adult who has the proper permit and hunter education certification. Certain exceptions apply for landowners. This permit is valid for the youth portion and the remainder of the spring turkey season, as well as the fall turkey season and the firearms deer season.

Chapter 5 of the *Wildlife Code* covers permit privileges. Get a code book wherever permits are sold, or read it online at www.sos.mo.gov/adrules/csr/current/3csr/3csr.asp. Learn more about wild turkeys at www.mdc.mo.gov/nathis/birds/turkey/index.htm. Get details about the spring turkey season at www.mdc.mo.gov/hunt/turkey/sprturk/.

Ombudsman Ken Drenon will respond to your Conservation Department questions, suggestions or complaints. Write him at P.O. Box 180, Jefferson City, MO 65102-0180, call him at 573/522-4115, ext. 3848, or e-mail him at <Ken.drenon@mdc.mo.gov>.

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The Perfect Season

BY JIM AUCKLEY

When the cardinals start calling, it's turkey time in Missouri.

Turkey hunting is a growth sport in Missouri. Conservation Department Wildlife Research Biologist Jeff Beringer estimates the statewide turkey population at 500,000 to 600,000, and Beringer said the population is still growing as turkeys move into previously unoccupied habitat.

Beringer noted that turkeys also are multiplying to “amazing densities” in parts of northern Missouri, which already has the densest turkey population in the state.

I had hunted turkeys years ago without much luck, and so I had given it up. My wife's brother, Wayne, owns timbered property in north Missouri where those “amazing densities” of wild turkeys live, so I decided to try again. I bought a spring turkey-hunting permit, found a box of Double XX magnum shells in the basement and started piling stuff in the car. The last week of April found me at the house on Wayne's property, ready to hunt.

I was alone in the house, a mile off the paved road in a part of Missouri where livestock far outnumber the people. The house is surrounded by the ghostly remains of a farming operation—a towering blue silo, a hog farrowing building where voices echo in empty stalls, and small, mysterious wooden buildings slowly rotting into the soil. Somewhere in the dark, a

door on one of the outbuildings banged shut in an April breeze. I rolled over in my sleeping bag, punched up my pillow and tried to sleep. I was on a hide-a-bed in the living room of the house. I had expected that my partner would already be there.

Sitting up, I looked out the picture window over the couch. In the daytime, the window afforded a view across a wide river bottom that had been cleared to grow crops. A quarter-mile across the field rises a levee that borders an unseen river. Rolling hills edge the flat land along the river, and they are crowned with forests of oak and hickory. The woods are home to white-tailed deer and turkey. You can see it all in daylight. At 11 p.m., however, the view was reduced to a swatch of solid darkness.

The house, with two bedrooms and one bath, sits on a rise overlooking the bottoms. At dusk, I had sat on a slab of concrete at the edge of the yard, flicking ticks off my pantlegs while listening for a turkey to gobble as it went to roost. The house had long ago been converted to a hunting cabin. Deer antlers adorned the fireplace mantel. A broken, blood-streaked arrow and a variety of rifle cartridges littered a tabletop. The living room and kitchen/dining room are long and narrow. Wayne has an archery tar-



get at one end of the kitchen and actually shoots his bow inside the house. There is a woodstove in the kitchen. The bedrooms simply have mattresses on floors. It's not a place where you worry about having a little bit of mud on your boots when come in from the woods.

My experience as a turkey hunter is quite checkered. I once called up a bird, but when I lifted my gun, the bird saw the movement and disappeared in a heartbeat. Other times I had called up hens. Once, with Wayne, I had been tense as we set up on a bird that seemed to be gobbling non-stop. I was wired, and after long moments of straining to see movement in the woods, my thumb hovering over the safety in my gun, I was deflated when the bird finally shut up and moved away from us.

Later, as we walked down a lane in the woods, a bird gobbled about 200 yards to our right. We found a large tree and settled at its base, Wayne on one side and I on the other. He called, but the bird did not respond. Moments later I felt something on my boot then realized Wayne was kicking me. I pulled myself up on my elbows to see his side of the tree and there, standing 15 yards in front of us, was a large gobbler. He had come in without making a sound, and was looking for the hen he thought he'd heard. By the time I raised my gun, the bird was gone. Had Wayne not deferred to me, he could have easily put his tag on that gobbler.

I had left a light on in the kitchen. The next thing I knew, Wayne was telling me it was time to get up. I looked outside; it was still pitch black. My watch said 4:30. He said he had come in at midnight. I had been asleep and had not heard him. I sat up on the edge of the bed and dug a camouflage outfit out of my bag. We had chilled thermos coffee and a cinnamon roll for breakfast. Soon we were in the truck, driving to a part of his woods where he had heard two birds gobbling the previous morning.

It was a perfect end to a perfect season, made possible for Cody and me by a generous person with an unbounded love of the outdoors and with skills I am unable to fathom.

Wayne says it is turkey time when the cardinals start calling just before sunrise. He has killed a number of deer and turkey here with both bow and gun. He has tree stands throughout the woods, and a camouflaged blind that he uses when hunting turkeys with a longbow. He has this property because he once stopped to help a man change a flat tire, but that's another story.

He parked the truck, and we walked across corn stubble and down a grassy field to a point of timber. I heard a satisfying "thunk" as I dropped two shells into the barrels of my gun. I gently closed it and made sure the safety was on. A whippoorwill called two or three times, then went

silent. By the time we had walked 100 yards into the timber, the cardinals were calling.

It was turkey time.

The woods were beginning to lighten as we stood at the top of a ridge. April is an amazing time to be outside. The air is sweet and cool, the woods are greening up and warblers are singing their hearts out high in the trees. We soon heard gobbling turkeys, but most were distant. Wayne does an excellent imitation of a barred owl with his voice, and he began hooting to lure a turkey into gobbling.

We stood still, wondering whether to stay or go as we listened for a bird close enough to work. Finally, a bird gobbled not far away. After a moment he gobbled again.

Wayne pointed in that direction, and we slowly began walking. We came to an old woodland lane. Wayne looked around, then he pointed out a spot where we could sit. He thought the bird would come to us on that lane. I sat with my back against a tree. I am left-handed, and my gun would be pointed just where it needed to be.

I'm struggling to learn to use a turkey call, but when I'm with my brother-in-law, I leave it in my pocket. Wayne made soft turkey sounds with a slate-and-peg call, alternating quiet





purrs with light yelping. Our gobbler answered from his tree. Wayne continued to call, but the bird seemed stuck in the tree. Suddenly Wayne began cackling on a mouth call while slapping his arm with a gloved hand, mimicking the sound of a turkey flying down from roost. He then scratched up the leaves with one hand, making the sounds of a turkey foraging on the forest floor.

I felt relaxed until Wayne whispered to me. He thought the bird was going to come from the left side of the lane, and he asked if I could swing around so I could shoot in that direction. My turkey hunting life flashed before my eyes, and the thought of possibly spooking this bird by moving was more than I could bear. Instead, I simply shifted my gun to my right hand. I'd shoot him right handed. I lifted the gun to my right shoulder and held it there.

A moment later I saw something black ahead of us. The black forms came into focus, materializing into the forms of two turkeys walking straight toward us. Wayne told me later that he could hear me breathing. I think my entire system was going about a thousand miles an hour. I couldn't see beards on the birds, and I quickly scanned their heads for the color red but didn't see that either.

"Are they both gobblers?" I asked in a whisper.

"Yes," Wayne whispered back.

I sighted down the rib on my gun, but my left eye was

fighting my right eye for dominance, making the bird on the right seem to hover above the gun. The birds were still coming toward us as I forced my right eye into the sight picture I wanted, then squeezed the trigger.

At the sound of my 12-gauge, my turkey collapsed, quivered once or twice and then died. My jinx was over, and suddenly I heard songbirds in the trees, felt the twigs I had been sitting on and smelled smokeless powder mingled with scent of oak trees and damp soil. My breathing returned to normal.

A shot from Wayne's gun quickly followed mine, but his bird was already moving, and he missed it. My hands trembled as I took my tag out of my wallet and wrapped it around the bird's leg. He was a jake with a short beard, no old patriarch of the woods, but he looked great to me. More importantly, I had learned an awful lot about turkey hunting from someone who is a master at the sport.

A week later Wayne sat in the woods next to his 12-year old son, Cody. Three birds came in to an opening unannounced. Cody shot his first turkey then quickly handed the gun to his dad, and he shot a bird, too. It was a perfect end to a perfect season, made possible for Cody and me by a generous person with an unbounded love of the outdoors and with skills I am unable to fathom.

April, and turkey hunting season, can't come soon enough. ▲



SNAKES ALIVE!

The best response to venomous snakes is to respect their wildness. By Mark Goodwin, Photos by Jim Rathert



An August day at my parents' cabin along Big Creek in Wayne County offered summer fun at its best. Mom and Dad had invited my family and my two sisters' families out for the weekend. I rose early and hunted squirrels in the cool of the morning. At midday, we all played in Big Creek and tried our luck at fishing. I helped my older sister's step-grandson catch his first smallmouth bass. I even found time for an afternoon nap.

After supper, my wife, Lisa, and I took a short walk down the county road that leads from the cabin. The clay and gravel road winds through a sizable expanse of hilly hardwood timber. As we chatted and walked, I stopped periodically to listen for the sound of squirrels cutting hickory nuts. The sound, a sign of coming fall, was one I had not yet heard this season. I was eager to hear it. My wife is patient, but the fourth time I motioned for silence, she gave me a look that said, "Mark, that's enough."



Timber rattlers avoid confrontations with people by hiding or slithering away. Another defensive tactic is to coil and rattle.

Most snakes avoid confrontation with large animals, including humans.

We had just resumed our walk when my wife stopped and drew a quick breath. Ahead, in the middle of the road, 50 yards away, lay a large timber rattlesnake.

“Whoa! That’s the biggest rattlesnake I’ve ever seen!” I exclaimed.

Cautiously, I approached the rattler while my wife kept her distance. From about 10 feet, I stopped and studied the snake. It was at least four-and-a-half feet long and an easy 4 inches across the back at mid body. The snake remained motionless. In the timber, against a background of leaves, rocks and trees, remaining still would have helped the snake go unnoticed. Against the red clay of the county road, however, the tan and brown bands looked brilliant.

While I watched the snake, I heard the grind of gravel from an approaching vehicle. I grabbed a long oak limb from the ditch and pushed the snake off the road. Instead of crawling away, the snake coiled, raised its head and rattled menacingly.

The grind of gravel grew louder.

“Come on, snake,” I thought. “Your instincts aren’t serving you well today.” After several shoves, the rattler finally uncoiled and slithered across the road and out of sight.

The vehicle, an old pickup, rounded the corner. I waved to the young man behind the steering wheel. He had not seen the snake, but he and his wife looked concerned about the stranger in the road with a long, thick oak limb in his hand.

I pitched the limb in the weeds. Lisa and I returned to the cabin, where I related our run-in with the rattler. No eyebrows were raised. My family knows my attitude toward snakes. I consider them an interesting part of our natural world—animals that deserve respect.

Many people disagree with this view. They see venomous snakes as a threat. A careful analysis of snake behavior, however, reveals that snakes pursue only two groups of animals—prey and mates. Humans fit neither category.

At first, the rattler that my wife and I encountered instinctively remained motionless to prevent detection. When I attempted to push the snake across the road, it coiled and rattled to warn. Had the snake intended to bite, it would have rushed me and tried to do so. Of course, that did not happen. Most snakes avoid confrontation with large animals, including humans.

Like many Missourians, I grew up fearing venomous snakes. Over the years, however, I have grown to see venomous snakes as part of what I sought on weekend

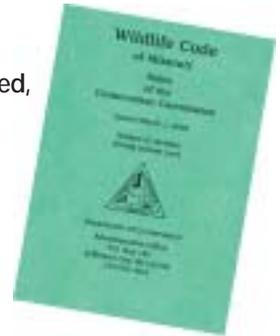
retreats to Missouri’s remote reaches. I like to spend time in places where I hear no road noise; where at night, the only light outside comes from the moon and stars; where when I walked afield, I need to watch out for venomous snakes.

At most of the places I visit, a copperhead might be coiled by a pile of rocks, or a cottonmouth might be dozing in a tangle of streamside brush. They are part of the wildness that I seek, and so I appreciate their presence.

I raised my children to hold these same values. Several Aprils ago, my son, Michael, then a grade schooler, and I were hiking behind my parents’ cabin. As we picked our way along the edge of a rocky, south-facing slope that flanked Big Creek, I warned Michael to walk close behind me and to watch where he put his feet because venomous snakes could be about.

Killing a Snake: IS THAT LEGAL?

Chapter 4 of Missouri’s Wildlife Code, rule 3 CSR 10-4.110 reads: “No bird, fish, amphibian, reptile, mammal or other form of wildlife, including their homes, dens, nests and eggs in Missouri shall be molested, pursued, taken, hunted, trapped, tagged, marked, enticed, poisoned, killed, transported, stored, served, bought, sold, given away, accepted, possessed, propagated, imported, exported or liberated to the wild in any manner, number, part parcel or quantity, at any time, except as specifically permitted by these rules and any laws consistent with Article IV, sections 40-46 of the Constitution of Missouri.”



This inclusive piece of legal prose recognizes the importance of all wildlife. It prohibits all use of wildlife, unless specifically permitted by a rule in Missouri’s Wildlife Code. Only under very limited circumstances is it permissible to kill a snake in Missouri. Rule 3 CSR 10-4.130 establishes provisions for capturing or killing wildlife that is damaging private property. A black rat snake that is beyond a reasonable doubt eating your chicken eggs would be an example of a snake damaging your property.

Missouri’s Wildlife Code provides broad protection for wildlife and encourages a common sense approach to wildlife problems and management.



Timber rattlers are dangerous but their bite is usually not deadly. Most bites occur when people tried to kill or handle snakes.

“Are you afraid of them, Dad?” Michael asked.

I told him that I didn’t fear them, but that I respected them. I explained that venomous snakes are well equipped to defend themselves. We walked a little farther along the rocky slope, then turned up a draw that would take us back to the cabin. As we passed a downed rotten log, my son stopped and exclaimed, “Look, Dad! Here’s a big snake skin!”

I stopped and picked it up. The skin was old and torn, but the faint color pattern was unmistakable. It had once been attached to a timber rattler. We both marveled over the discovery. Back at the cabin we showed the skin to family. Grandma gave Michael a clear sandwich bag to take the skin home so he could show it to his grade-school classmates.

Finding that snake’s skin turned our hike into a memorable event, a chance to witness what is still wild in Missouri. ▲

Avoiding Venomous Snakes

Missouri is home to five species of venomous snakes: copperhead, cottonmouth, timber rattlesnake, pygmy rattlesnake and massasauga rattlesnake. All are shy and normally avoid people, but when cornered, they are capable of defending themselves.

Medical literature reveals that most people are bitten by venomous snakes while trying to kill or handle them. If you come across a venomous snake or a snake you can’t identify, leave it alone. In areas that harbor venomous snakes, wear protective footwear and always look where you put your hands and feet. Do not straddle logs or rocks. Step on them, then step over.

A bite by any of Missouri’s venomous snakes warrants immediate medical attention. However, no human deaths from bites by native venomous snake have been recorded in Missouri in more than 30 years.



Western cottonmouths hold their heads above the surface when swimming, exposing their backs.

Managing THE Herd

by Bill Heatherly
and Lonnie Hansen

The public is playing
a major role in directing
future deer management.

“What do you think?”

That’s a question the Missouri Department of Conservation has been asking deer hunters and landowners throughout the state. Their answers will help determine the future of deer management in Missouri.

Today, Missouri is blessed with abundant wildlife, but it hasn’t always been that way. Although early settlers reported large numbers of deer and other wildlife, unregulated market hunting in the late 19th and early 20th centuries nearly eliminated deer in Missouri. By 1925, fewer than 400 white-tailed deer remained in the entire state.

Concerned sportsmen and women demanded change. The Missouri Conservation Commission was established in 1937. The Commission closed the deer-hunting season in 1938, thus beginning the important work of wildlife management and restoration. Those efforts proved successful, and today Missouri is home to nearly a million white-tailed deer.

For the first few years, the guiding principle of deer management was relatively simple: protect the does so the herd could grow. Wildlife biologists have long known that does are the key to successful deer herd man-



Cliff White

More than 4,000 concerned hunters and landowners across the state attended 19 public meetings and six special interest/conservation meetings held this winter to gather public input on ways to manage Missouri’s deer herd.

agement. If does are protected, the herd will expand. The opposite is likewise true. Increasing the doe harvest limits a herd’s reproductive potential.

The strategy of protecting does was effective, and deer numbers began to increase. In 1944, the first “modern” deer hunting season for bucks only was opened in a few Missouri counties. By 1951, deer numbers had increased sufficiently to allow limited harvest of antlerless deer in selected areas.

Deer numbers continued to increase. Beginning in 1959, hunters could pursue deer statewide. Deer

management units were established in 1970, and the quota system followed in 1974. These two innovations made it possible to manage deer on a more local level. Bonus Deer permits valid for antlerless deer became available in 1987. The first muzzleloader season was held in 1988. The Antlerless-Only portion of the firearms season was added in 1996, and the Youth-Only portion began in 2001.

Beginning with the 2002 season, Any-Deer permits were valid statewide, and in 2003 hunters could purchase and fill any number of



Bonus Deer permits in many deer management units.

Because hunting is the primary tool used to manage deer, hunting regulations must continue to change periodically to reflect changes in the deer herd and new management goals.

Deer management in Missouri is now at another crossroads. Surveys indicate that over the past decade, the average age of deer hunters has increased from 36 years to 42. In

It's important that any new regulations have the endorsement and support of hunters and landowners.

addition, it's known that older hunters tend to take fewer deer. These trends are a source of some concern for deer managers because it means that in the future we will likely have fewer hunters taking fewer deer.

In addition, deer hunting preferences appear to be changing. In the past, most hunters were satisfied with the opportunity just to take a deer—any deer. Today, however, more hunters want the opportunity to take older bucks.

In the face of these challenges, deer managers are looking for ways to shift harvest pressure from antlered deer (bucks) to antlerless deer (does) so we can more effectively manage deer numbers. This shift would also have the benefit of allowing more bucks to grow older.

It's important that any new regulations have the endorsement and support of hunters and landowners. To give hunters and landowners a chance to express their opinions, the Department of Conservation conducted public meetings around the state. At these meetings, they presented the challenges we face and offered the following five management options that wildlife biologists believe would shift harvest pressure from bucks to does.

Antler Restrictions—Would limit the harvest of bucks to only those with specific antler characteristics.

Earn-a-Buck—Would require hunters to take an antlerless deer before taking an antlered deer.

Buck Quota—Would limit the number of permits valid for antlered deer.

Reduced-Length Buck Season—Would limit the time when antlered deer could be taken.

Altered Season Timing—Would move the main portion of the firearms deer season out of the peak of the rut.



Conservation Department personnel, including Deputy Director John Smith (upper photo), were on hand at the public forums to hear what people had to say about deer management. Public comment continued even after the public event in Moberly (lower photo) had concluded.

Cliff White

At the meetings, an open microphone provided everyone with the opportunity to voice their opinion. All comments and suggestions were recorded. Attendees also had the opportunity to interact one-on-one with Department personnel, including, at some meetings, Director John D. Hoskins, Deputy Director John W. Smith and members of the Regulations Committee.

Although each option had its supporters, some of the presented options were more popular than others. People who attended the meetings also were encouraged to offer their own ideas for shifting harvest pressure from bucks to does. Comment cards were also available. Many hunters later offered their opinions via letters, telephone calls and e-mails.

The meetings were well attended and showed that Missouri deer hunters and landowners have a wide range of views when it comes to deer management. Whatever option or options we choose as a result of these meetings will likely disappoint some people.

Biologists are evaluating the public response to the various manage-



Jim Rathert

Future management must focus on increasing the harvest of does in order to control deer numbers. This strategy provides a bonus of more and bigger bucks in the population.

ment options and are formulating their recommendations for the 2004 deer hunting seasons. The regulatory options chosen likely will not be made statewide. Instead, they will be tested at pilot locations that have yet to be finalized.

Once the new regulations have been approved and implemented, the project will be monitored continuously so that we can make necessary adjustments during the trial. Harvest data and other information from the test area will be compared with non-test areas. Surveys will measure hunter and landowner attitudes before, during, and after the trial. At the conclusion of the test period, a com-

plete and thorough evaluation will be made to determine if the new strategy should be implemented on a broader scale.

The recommendations for the 2004 deer hunting seasons will be presented to the Regulations Committee for their approval later this month and then to the Conservation Commission for final approval. After the Commission has approved the seasons, the public will be notified about all aspects of the experiment, including which option was selected and why, as well as when and where it will be tested, and other details.

Regardless of how regulations change, it is imperative that any changes maintain our deer hunting traditions and the high value Missourians place on deer. Any changes must also ensure that hunting continues to be an effective tool for managing our valuable white-tailed deer. ▲



Cliff White

Conservation Department biologists presented possible management strategies at the meetings.



Male American kestrel

Roadside Raptors

By Beverly J. Letchworth
Photos by Jim Rathert

The "road way" is the best way to spot Missouri's birds of prey.

Driving down the highway, you spot a bird hovering over the grassy median like a small helicopter. The bird is about the size of a blue jay and has a reddish-brown back and tail, bluish wings, and black face marks that look like a mustache.

It hangs in the air, and then it suddenly drops feet-first into the grass.

The bird is an American kestrel, the smallest North American falcon and one of our most abundant and colorful raptors, or birds of prey. As is the case with many of Missouri's raptors, one of the best places to see them is from the road.

Roadsides are great spots to see birds of prey in action. The cleared right-of-ways and nearby fields create hunting grounds for raptors. The poles and utility wires that usually parallel our roadways provide them with places to perch while they watch for other animals to eat.

Raptors are birds with keen eyesight, sharp, hooked beaks for tearing prey and strong feet with large, sharp talons for killing and holding prey. A bony shield above each eye gives them a fierce look. This shield helps shade their eyes from the sun and protects them from tree limbs, brush and struggling prey when they're hunting.

Merely eating other animals does not make a bird a raptor. Herons, for example, eat fish. Warblers eat insects and crows may eat birds, but none is considered a raptor.

Raptors that are active during the day belong to the Order Falconiformes, which sets them apart from night raptors, the owls.

Raptors come in all sizes. A golden eagle may weigh up to 14 pounds and have a wingspread of

some 8 feet, but a merlin may only weigh 10 ounces and have a wingspan of about 1 foot. Whatever their size, raptors are usually near the top of their food chains. They're usually the ones pursuing other species.

Even when you are rolling down the highway at 60 miles per hour, it's easy to recognize an American kestrel. It is the only North American falcon that will hover as it searches for mice, birds, reptiles, insects or other food. They usually drop feet first into the grass when they are after an insect. If after a mammal, a kestrel would more likely dive headfirst.

Kestrels capture prey on the ground rather than in the air, as do other falcons. They're commonly called sparrow hawks because they regularly prey upon house sparrows.

Kestrels are common residents of Missouri. They are the only North American falcon or hawk that nests in cavities, such as woodpecker holes or crevices in cliffs, barns and buildings. They don't shy away from developed areas, and will even nest in large cities.



Red-tailed hawks



Female northern harrier

While handling the household duties of nesting and rearing young, the female kestrel depends on the male to bring home food. He does his job of hunter well. After he captures prey, he flies back with it, calling as he nears the nest. The female, hearing the call, leaves the nest and follows her mate to a landing spot where she takes the food.

Red-tailed hawks

Red-tailed hawks also are common along Missouri's roadsides. They are stocky brown birds much bigger than kestrels. They often perch on utility poles or fence posts, or on tree branches in winter. A close look reveals their dark belly-band and reddish tail. Red-tailed hawks frequent prairies, forests, mountains, deserts, farmlands and even suburban areas. If you look out across open country in mid-morning, you may spot red-tails seeming to float on warm air currents rising from the ground.

Riding a wing span of about 4 feet, red-tails soar over the countryside looking for small mammals, birds, reptiles and amphibians. Any creature they can catch and kill is likely to be part of their diet. Red-tails also like to hunt from tree limbs, utility poles and other perches. Their sharp eyes can catch the slightest movement below.

Red-tails are not shy. They guard their territory, and if they spot an intruding hawk, they'll go after it. With legs down and screaming a piercing, high-pitched cry, they dive at the other bird and try to hit it with their talons. They may also attack an intruder perched nearby with the same talon-strike and scream. Red-tails will even dive at and chase much larger birds, including golden eagles and bald eagles.

Red-tail pairs may stay together for years on the same territory. When nesting time comes in mid-March (the earliest nesting time of all Missouri hawks), they may build a new nest of sticks and bark or renovate the same nest they used the year before. Nests that have been used for years may be three or more feet high. The birds usually bring fresh greenery to the nest—sprigs of leaves or pine needles—until the young birds (two is the usual number) fledge and leave the nest. The fresh greens repel parasites and help hide the nestlings.

Broad-winged hawks

Broad-winged hawks also find good hunting along our



Broad-winged hawk



Male northern harrier

roadsides. They're brown, crow-sized birds that sometimes appear a bit sluggish. Their wailing whistle, *su-eee-oh*, doesn't sound much like a hawk. Look for their broad, black-and-white tail band.

Broad-wings stay in Missouri during spring and summer and spend the winter in South America. Near the end of September, they move in great flocks called kettles, rising on thermals and then coasting until they can catch another thermal. As many as a thousand broad-wings have been sighted at once passing over Jefferson City and St. Louis. Over 19,000 were counted in one day as they winged their way over Hawk Mountain, Pennsylvania.

Broad-wings live in forests, especially along rivers and creeks. They hunt by watching from a perch for small mammals, birds, frogs, toads, snakes and insects.

At nesting time, broad-wings return to the area they used the year before and build a new nest, usually in a crotch of a tree. The stick nest is lined with bark and moss and green leaves that the birds pull directly from the tree.

Northern Harrier

If you're passing a field or meadow or marshy ground, you may spy a slim bird with a white rump and long wings flying slow and near to the ground. It may seem to tilt a bit as it flies.

The northern harrier is the only North American member of a group of hawks known as harriers. Harriers seldom look for prey from a perch as do other hawks and falcons. Instead, they hunt by flying low to the ground during much of the day, taking small creatures by surprise. Their owl-like, disk-shaped face helps amplify sound, which helps them find prey.

Northern harrier courtship is a spectacular affair. They perform steep dives and climbs, and they somer-



Immature red-tailed hawk



Broad-winged hawk kettle



Mature red-tailed hawk



Northern harrier

sault in a series of quick loops with the bird upside down at the top of the loops. Mating and nesting follow these exciting performances.

Northern harriers used to be called marsh hawks. The males are gray overall. Females are brown.

Harriers are one of the few hawks to nest on the ground. They lay four or five eggs in a mound of dead reeds and grass in meadows, or in or near marshes. They nest less frequently in Missouri now due to wetland drainage and the reduction in prairies and meadows. Except during the nesting season, harriers are common residents in Missouri.

Kites and merlins

The Mississippi kite is a gray, falcon-shaped hawk with narrow, pointed wings. It's a marvelous flier and spends hours in the air, soaring and gliding. It rarely flaps its wings. Unlike other raptors that circle in the air, it moves in a more or less straight line as it flies.

Insects on the wing are the Mississippi kite's chief prey. Grasshoppers, dragonflies, beetles, crickets, cicadas and locusts make up much of its diet, but it occasionally eats lizards, frogs or snakes. When it sees prey, the bird fans its tail, hangs for a moment in midair, then drops downward and captures prey with its talons.

Mississippi kites spend the winter in South America, but they stay in Missouri from April through September. They nest mainly in southeastern Missouri along the Mississippi River. They often breed in small colonies of up to 20 pairs and will hunt together, too.

Merlins—jay-sized birds, sometimes called pigeon hawks—don't nest in Missouri, but they pass through the state in spring and fall. Some people call them “bullet hawks” or “blue streaks.” These names fit them well



Red-shouldered hawk

because merlins are the speed demons of the air. With long, boldly-banded tails and long pointed wings, they dash and zoom, veer and zigzag as they catch insects in flight, especially dragonflies. They're small, but they often harass larger hawks and gulls.

They're also experts in catching birds, their major prey. They fly in a direct line over open forest where they hope to surprise flocks of birds. When they do, they may snatch a bird that is slow to escape.

Red-shouldered hawks

Red-shouldered hawks often fly among trees in wet woodlands or near streams. They range from 18 to 22 inches long and have a wingspan of about 40 inches. Females are generally larger than males. Heavy dark bands cross their fan tails on both sides. It's hard to see their rusty or rufous shoulders from below.

The best time to see red-shouldered hawks is in mid-morning. In early spring, they spend much of the day soaring through the sky, noisily defending their territory. Their sharp, screeching *kee-yah, kee-yah* cries are distinctive.

These hawks often sit on the tops of dead trees where they have a good view of the forest floor. They eat birds, small mammals, reptiles and amphibians. They capture prey by dropping on it from the air. Sometimes they forage along streams for crayfish. People often see them while canoeing Ozark rivers.

Some red-shouldered hawks remain in Missouri all winter, but migrants start arriving in early March and leave by about the middle of November. Normally solitary birds, they form strong pair bonds during the nesting season. They build their large nests of twigs, bark and leaves high up in the trees of wetland woods.

On your next road trip in the country, keep your eyes on the road, but watch for roadside raptors, too. ▲



Mississippi kite



Merlin



Teachers bond with the outdoors and with each other during the Forest Park Voyagers Teacher's Academy.

Shaking Hands with Forest Park

“I’ll show you how to put the worm on your hook,” said Dennis Cooke, a Missouri Department of Conservation Outdoor Skills Specialist. “Then you’re on your own.”

Doris Adams, a St. Louis area teacher and a first-time angler, awkwardly flung her wormed hook into the heavily stocked Forest Park Hatchery Lake. It landed with a plop. Before the ripples rolled away, her bobber plunged. She excitedly set the hook and reeled in the first fish she had ever caught.

“Oh my goodness!” she screamed. “Look at him! I want to hold him!”

Doris and 26 other St. Louis area teachers were enjoying new outdoor experiences as part of the eight-day Forest Park Voyagers Teachers’ Academy. The Voyagers workshop shows teachers how to help their students explore and enjoy the natural resources of Forest Park, one of St. Louis’ oldest and best-known urban parks.

The Conservation Department has helped preserve much of Forest Park’s natural resources through funding or management, and the Voyagers program is a natural extension of those efforts.

“We wanted to help teachers recognize the outdoor learning opportunities in the park,” said Patti Redel, Outreach and Education Regional Supervisor for the Department. “Urban students don’t have to drive very far to see many different ecosystems, including an upland forest, stream, wetland and lakes. We created the Teachers’ Academy to show them what opportunities are available in the Park and how bringing students to the park could help the teachers meet their educational objectives.”

The Voyagers program is founded on the principle of experiential, hands-on education. People learn best not just by doing, but by doing and then thinking about what they have done, what it means and how they might do things differently. The park setting, with its many opportunities to physically interact with nature, is perfect for this type of education.

“If we are fishing to catch a fish, it is just fishing,” explained Jim H. Wilson, E. Desmond Lee Professor for Experiential Education. “But if we catch a fish, find out what fish eat, what the oxygen level and temperature of the water mean to that fish and how the time of day

Voyagers program introduces St. Louis teachers to the outdoor wonders of Forest Park.

By Liz Lyons
Photos by Jim Rathert



Doris Adams caught her first fish during the program.

affects fishing success, and if we then figure out how we might use that information to catch other fish or create better fish habitat, it becomes a learning experience.”

During the Voyagers program, teachers see how art, history, math, science and writing blend into a comprehensive learning experience. Teaching their students to fish, for example, also provides the teachers an opportunity to discuss aquatic ecology, food webs, water quality and the connection of people to nature.

Immersion Day

Teachers begin the Academy with a complete immersion in Forest Park and its resources. They first learn practical details about the park, such as where the bathrooms are, and where 150 students can get drinking water. Teachers are then sent to secluded spots in the forest where they can immerse themselves in the sights, sounds, smells and feel of nature without being distracted by people. The teachers are asked to record their impressions and feelings by writing or drawing in a nature journal.

“I didn’t like the journaling idea at first, but this is different,” said Meri Ellen Brooks, an eighth-grade language arts teacher. “It’s not about writing or drawing; it’s about creating something. I get it now.”

With these experiences fresh in their minds, teachers begin the more practical work of learning how to teach in the park.

A River Runs Through It

The Academy examines the relation of three Forest Park ecosystems—lakes, riparian areas, and forests—to the recently redeveloped River des Peres. On the second day, teachers visit the Conservation Department’s Forest Park lakes to study aquatic ecology. Missouri teachers can reserve these lakes for aquatic educational field experiences for their students.

Using kits provided by Forest Park Forever’s Eco-lab, they can test a body of water’s pH, dissolved oxygen, nitrate and phosphate levels, and temperature. They can use the Eco-lab’s dip nets and search for aquatic macro-invertebrates. They can even fish in

the well-stocked aquatic education lakes and taste a sample of fried fish. The Department can help organize such events and provides a free instructional resource book, “Fishing for Answers.”

On Day 3, teachers go to the river to study the riparian areas up close. They investigate riparian plant and animal communities in the park, and learn how those compare with other riparian areas.

The focus of Day 4 is urban forests. Teachers learn about Kennedy Forest’s history and its importance in the park’s watershed. They measure trees and evaluate the health of the forest. Kennedy Forest, a hotspot for migratory birds, also is an excellent place for teachers to hone their birdwatching skills.

The Academy program is much more than “a walk in the park” for these teachers. Active and unusual games are an important part of the program, and teachers often get wet or dirty as they explore the outdoors.

The three days of the “The River Runs Through It” portion of the Academy are the program’s core. They provide teachers with knowledge, hands-on experiences, and interdisciplinary lessons in three different areas within the park. Teachers are then ready to build their own Forest Park lessons.

The teachers then divide into small groups according to the locations in the park they most want to explore with their students. Each group creates a series of lessons that include more than one subject, meets the school’s curriculum needs and carries a message of stewardship for the park.

On Day 8, the last day of the Academy, Voyagers teachers hear each group’s lesson ideas. Most are highly creative. For example, last summer, the team of Julie Burnette, Jesse Todd, Rebecca Dodd and Amy Marvel cre-



At the Academy, teachers learn how to catch and clean fish. The hands-on experiences provide teachers with outdoor skills they can pass on to students.



Teachers developed lesson plans and exercises to help their students learn about Missouri's plant and animal communities.

ated "Harmony in Kennedy." During this program, the students will connect nature with musical themes in Vivaldi's "Four Seasons" during several seasonal field trips to Kennedy Forest. Their students will create sound maps, word maps, poetry and artwork using only natural materials gathered using ethical techniques.

Teachers benefit both from developing their own lesson plans and by hearing the details of lesson plans developed by others. By the end of the program, they have an arsenal of tools for helping students learn more about the outdoors at Forest Park.

Many teachers were amazed at the activities they ended up enjoying. They saw changes in themselves and realized the potential Forest Park has to change their students, too.

"At first, I didn't like the idea of looking at bugs," said Doris Adams

with a laugh, "but then I became fascinated by seeing changes in the wetland ecosystem. I enjoyed it so much!"

"I feel so blessed that I found this Academy," Angela Breitenstein said. "I'm going to leave a 'Gone Fishing' sign on my classroom door with the (Missouri Assessment Program) standards that relate to fishing right next to it."

"I'm inspired," said Julie Burnette, displaying the enthusiasm she hopes her students will have when they come to Forest Park. "Let's take this back to our schools and spread it like wildfire."

For more information about this summer's Forest Park Voyagers Teachers' Academy, visit <www.mdc.state.mo.us/teacher/workshops> or call Liz Lyons at 314/301-1500, ext. 2243. ▲

Academy Helpers

Many groups and organizations are partners in The Forest Park Voyagers Teacher's Academy. In addition several trusts and private enterprises have lent their support.

Voyager Partners

- ✦ Forest Park Forever
- ✦ Missouri Botanical Garden
- ✦ Missouri Department of Conservation
- ✦ Missouri Historical Society
- ✦ St. Louis Art Museum
- ✦ St. Louis Science Center
- ✦ St. Louis Zoo
- ✦ St. Louis Department of Parks, Recreation & Forestry

Voyager Sponsors

- The Employees Community Fund of
- ✦ Boeing St. Louis
 - ✦ Citigroup
 - ✦ Clifford Willard Gaylord Foundation
 - ✦ Edward Chase Garvey Memorial Foundation
 - ✦ John R. Goodall Foundation
 - ✦ Anne Lehmann Charitable Trust



Missouri's Outdoor Women to meet at Windermere

Fresh air, sparkling water and the company of other outdoors-loving women will make the Missouri's Outdoor Women gathering June 11-13 a weekend to remember. The event is a chance for novices to learn outdoor skills from expert women instructors. The event will be held at the Windermere Conference Center, a state-of-the-art facility on 1,300 acres at Lake of the Ozarks.

Workshop offerings will include basic fishing, canoeing, archery, map and compass skills, primitive skills, fly fishing, shotgun shooting, rifle/handgun shooting, watercraft operation and nature hiking. Register by April 23 for reduced rates. Late registrations will be accepted until May 14. For more information, contact Regina Knauer, 417/895-6881, ext. 1068, <Regina.Knauer@mdc.mo.gov>, Kathi Moore at 660/785-2424, ext. 228, <Kathi.Moore@mdc.mo.gov> or Nickie Phillips, 573/522-4115, ext. 3292, <Nickie.Phillips@mdc.mo.gov>.

BLIND PONY LAKE CLOSES FOR RENOVATIONS

Anglers who enjoy fishing Blind Pony Lake at Blind Pony Lake Conservation Area in Saline County will have to find other places to wet a line for awhile. The good news is that when the lake reopens it will be better than ever.

Besides being a great fishing hole, the 195-acre lake supplies water for the Conservation Department's Blind Pony Fish Hatchery. Techniques for the production of hard-to-rear species like paddlefish, lake sturgeon and Niangua darters were developed at this hatchery. Other species produced here include largemouth bass, walleye, catfish, sunfish and bluegills.

Since it was created 35 years ago, the lake has been filling with silt. Reduced water quality and quantity limit the hatchery's ability to grow sport fish, and to raise endangered pallid sturgeon for restoration efforts on the Mississippi and Missouri rivers.

This last connection has prompted the federal government to help pay for lake renovation. Work will include dredging to deepen the lake, replacing hatchery water supply lines and inspecting and refurbishing the lake's boat ramp, fishing docks, jetties and other facilities. The lake will reopen in approximately four years.

Only the lake will be closed, the rest of the area, including four small ponds will remain open as usual for the public. For more information, contact Hatchery Manager Gary Heidrich, 660/335-4531 or Fisheries Management Biologist Phil Pitts, 573/884-6861, ext. 279.



Turkey watchers needed

The Conservation Department is looking for volunteer observers to help keep an eye on our wild turkeys.

During June, July and August, these "turkey brood survey cooperators" record sightings of turkey hens and poults on a self-addressed, stamped postcard provided by the Department. At the end of the observation period, they can simply drop the card in the mail. These entries help the Department's turkey biologists estimate the strength of the year's turkey hatch. This is important in determining the number of turkeys in the overall population, as well as reproduction trends and cycles.

"The people who serve as turkey brood survey cooperators are our eyes and ears in the field," said Jeff Beringer, turkey biologist for the Conservation Department. "We need their help to monitor the turkey population each year. Conservation agents and biologists also help, of course, but we still need citizens who are out there on a daily basis."

To sign up, e-mail Jeff Beringer at <jeff.beringer@mdc.mo.gov>, or call him at 573/882-9909, ext. 3211.



State Championship Mushroom Hunt & Festival

Get ready for great fun and good eating at the second annual Missouri State Championship Mushroom Hunt and Festival in Pike County.

The event, which includes a competitive morel mushroom hunt, mushroom auction, mushroom foods and mushroom-themed booths, starts with evening activities April 23 in Louisiana, Missouri. The hunt runs from 10 a.m. to noon April 24 on designated land. Trophies are awarded to the contestant who brings in the most mushrooms, and to those who find the largest and smallest mushrooms.

The \$25 entry fee is tax deductible. Event proceeds go to the non-profit Dixon Whitney Foundation, which administers a Pike County cultural center. More information is available by phone at 573/754-7988 or by e-mail at <teres@big-river.net>.

GOOD NEWS FOR TRAPPERS

Early results from Missouri's 2003-2004 fur auctions show average prices are up for bobcats (\$82), otters (\$122), raccoons (\$13.38), beaver (\$10.66) and gray fox (\$20.15)

Humburg first to receive international honor

Waterfowl biologist Dale Humburg, who now heads the Conservation Department's Resource Science Division, recently became the first recipient of a new international conservation award. Humburg received the Robert Todd Eberhardt



Award at the North American Duck Symposium in Sacramento, California, last November.

The award is named for a Minnesota waterfowl biologist who was admired for his broad experience, passion for waterfowl conservation and humility. The award was established to recognize the work of state or

provincial biologists who work behind the scenes while making substantial contributions to waterfowl conservation in North America.

DISCOVERY PROGRAM FOCUSES ON YORK

Recently, the Gallery and the Association for the Study of African American Life and History (ASALH) teamed with the Conservation Department's Discovery Center in Kansas City to present a program on York, slave of William Clark, who accompanied Lewis and Clark on the Voyage of Discovery.

Sculptor and poet, Porter Williams, portrayed York in a living history reenactment titled: Whatever Happened to York? Williams explored York's unique place in history and offered insights and questions about this often overlooked American figure.

ASALH Board and Porter Williams (York) at the Discovery Center (left to right): Diane E. Bratton, Emanuel Cooper, Jr., Brenda Vann, Porter Williams, Evelyn J. Hunt, Dennis Robinson.



Groups trying to beautify Big Muddy

On a field trip last fall to Big Muddy National Wildlife Refuge near Rocheport, (Columbia) Hickman High School students planted trees to help restore the river's once-extensive bottomland hardwood forests.

Starting this month, Missouri River Relief will conduct a continuous, eight-week campaign to remove trash from the river between St. Louis and Kansas City. The effort will be just in time to benefit thousands of people following the footsteps of the Corps of Discovery during the Lewis and Clark bicentennial celebration. For more information, contact Missouri River Relief, P.O. Box 463, Columbia, MO 65205, <riverrelief@riverrelief.org> or visit <www.riverrelief.org/>.





GETTING EDGY WITH BOBWHITES

Living on the edge is good for bobwhite quail. They thrive in broad, brushy edges between open fields and woodlots or wooded fencerows.

Plant grasses and legumes in edge areas for maximum benefit to quail, as well as pheasants, meadowlarks, shrikes, rabbits and many other wild species. Native warm-season grasses, such as bluestems and Indian grass, add food and concealing cover for wildlife around crop fields. Other grasses, like redtop and timothy, are also beneficial for these purposes. Widening existing borders not only protects ground-nesting birds from predators, it also increases space for turning around farm equipment.

To keep brushy edges quail-friendly, keep them open with periodic mowing, burning or light disking. These activities should be delayed until after July 15 to avoid destroying nests. It's also best to disturb no more than half of your field borders each year.

"Bringing back Bob" on conservation land

"Bring Back Bob," the rallying cry for bobwhite quail restoration efforts, is more than a slogan in Missouri. The Conservation Department is setting an example on its own land with burning, light disking, tree and brush cutting and other measures to increase and improve quail habitat.



On some areas, conservation workers conduct "edge feathering" with chainsaws. This creates 30-foot strips with brush piles and shrubby growth along field edges.

Heavy equipment helps. One person on a bulldozer equipped with an 8-foot "shear blade" can accomplish in minutes what used to take a crew of workers hours or days to do. A "clipper" that grasps trees up to 14 inches in diameter by the trunk, snips them off at ground level and arranges them into brush piles also saves time and labor.

Work is ongoing at dozens of conservation areas statewide. Hunters, take note of cleared areas you encounter around field edges. These are quail factories in the making.

Turkey hunting information online

Lose your Spring Turkey Hunting Information booklet? No problem, the information is available at www.conservation.state.mo.us/hunt/turkey/sprturk/.

Former Conservation Commissioner dies

Ewart H. Burch, who served as a Missouri conservation commissioner from 1959 to 1965, died Dec. 30 in Prairie Village, Kan. He was 93. In addition to his public service, Burch was a member of the Waterfowler's Hall of Fame in Mound City. The family requests memorial gifts be made to the Waterfowler's Hall of Fame, Box 197, Mound City, MO 64470.



Pianist to tour nature centers

John Nilsen, whose musical talent has won him acclaim in the northeastern United States, will perform at Conservation Department nature centers in May. Nilsen is known for his ability to capture the essence of outdoor experiences in music. He will appear:

- * May 6 at 7 p.m. at the Kansas City Discovery Center;
- * May 7 at 7 p.m. at the Runge Conservation Nature Center in Jefferson City;
- * May 8 at 7 p.m. at the Springfield Conservation Nature Center;
- * May 9 at 2 p.m. at the Powder Valley Conservation Nature Center, Kirkwood.

The program is recommended for audiences 12 and older.



Turkey Federation has helpful tips

Have you ever wondered how people used to make turkey calls out of the turkey wing bones? Have you wanted to make a wall mount with a big gobbler's tail fan? Have you wondered how to locate the best public turkey hunting lands? This information and much more is available at the National Wild Turkey Federation's online Tips and Adventures page, <www.nwtf.org/tips_adventures/?nwtfsrc=nftr23>.

Conservation Commission acts to protect sturgeon

In December, the Conservation Commission voted to establish areas of the Missouri River where commercial take of shovelnose sturgeon is not allowed. This decision was in response to concerns that commercial harvest might reduce sturgeon numbers in the river. The Commission also created a \$500 Missouri River Shovelnose Sturgeon Commercial Harvest Permit and set seasons and limits for the harvest of shovelnose sturgeon. The new regulations go into effect July 1.

Gun deer harvest tops a quarter-million

Missouri's 2003 firearms deer harvest of 254,367 is a new record. Hunters took 208,940 deer during the 11-day November portion. Blackpowder hunters shot 11,131 deer during the 10-day muzzle-loader portion, and modern gun hunters took 25,151 deer during the nine-day, antlerless-only portion. Youths killed 9,054 deer during their two-day hunt, and hunters during the two-day urban portion of the season bagged 91 deer.

If you figure an average of 40 pounds of venison per deer, the 2003 harvest works out to more than 5,000 tons of meat taken by hunters.



"Dear Diary: Caught a catfish today"

A survey to learn more about catfish at Truman Lake is in its second year and is seeking volunteers. Anglers who are willing to keep fishing diaries for their time at Truman Lake can win cash prizes ranging from \$10 to \$100.

From April through October, participating anglers fill out a simple survey form after each catfish fishing trip. They can mail in their diary forms postage-free or fill out electronic diary forms. Active volunteers have the chance to win prizes of \$10 to \$100 at the end of the fishing season. For more information, contact Resource Scientist Kevin Sullivan, 660-885-8179 x224, <Kevin.Sullivan@mdc.mo.gov>.



IT'S SPRING—WATCH FOR SCALES AND TAILS

Ah, April! Spring peeper frogs are calling from ponds. Box turtles are crossing highways. Garter snakes are coming out of winter dens to bask in the sun. It's good to see nature on the move again.

Unfortunately, spring is a dangerous time for amphibians and reptiles. Biologists aren't sure how much impact highway mortality has on the continuing decline of salamanders, frogs, lizards, turtles and snakes, but it certainly can't help the populations of these species. Where possible, and without endangering human life, try to avoid hitting these creatures as they cross roadways.



Outdoor Calendar

HUNTING	OPEN	CLOSE
Coyotes	5/10/04	3/31/05
Crow	11/1/04	3/3/05
Deer, Archery	to be announced	
Deer, Firearms	to be announced	
(permits and regulations available in the summer)		
Groundhog	5/10/04	12/15/04
Squirrels	5/22/04	2/15/05
Rabbits	10/1/04	2/15/05
Turkey (spring)	4/19/04	5/9/04
Turkey (Youth Resident)	4/10/04	4/11/04
FISHING		
Black Bass (most southern streams)	5/22/04	2/28/05
Trout Parks	3/1/04	10/31/04
Bullfrog & Green Frog	Sunset 6/30/04	Midnight 10/31/04
Nongame Fish Snagging	3/15/04	5/15/04
Paddlefish	3/15/04	4/30/04

For complete information about seasons, limits, methods and restrictions, consult the *Wildlife Code* and the current summaries of *Missouri Hunting and Trapping Regulations* and *Missouri Fishing Regulations*, the *Fall Deer and Turkey Hunting Information*, *Waterfowl Hunting Digest* and the *Migratory Bird Digest*. To find this information on our Web site go to <<http://www.mdc.mo.gov/regs/>>.

The Conservation Department's computerized point-of-sale system allows you to purchase or replace your permits through local vendors or by phone. The toll-free number is 800/392-4115. Allow 10 days for delivery of telephone purchases. To purchase permits online go to <<http://www.wildlifelicenses.com/mo/>>.



Lewis & Clark fans can help stem zebra mussel spread

Conservation agencies have a favor to ask of the thousands of people expected to celebrate the Lewis and Clark bicentennial with Missouri River boating excursions: Please help stop the spread of zebra mussels.

Wherever it goes, the small, seemingly insignificant clam is causing tremendous damage to industrial and boating equipment. It is also devastating native mussel populations and upsetting the ecological balance of lakes and streams.

Prevention is simple. Just follow the advice in the 2004 "Summary of Missouri Fishing Regulations" or write for a free brochure to Zebra Mussels: Missouri's Most Unwanted, P.O. Box 180, Jefferson City, MO 65102-0180.

AGENT NOTEBOOK

Most of us have experienced

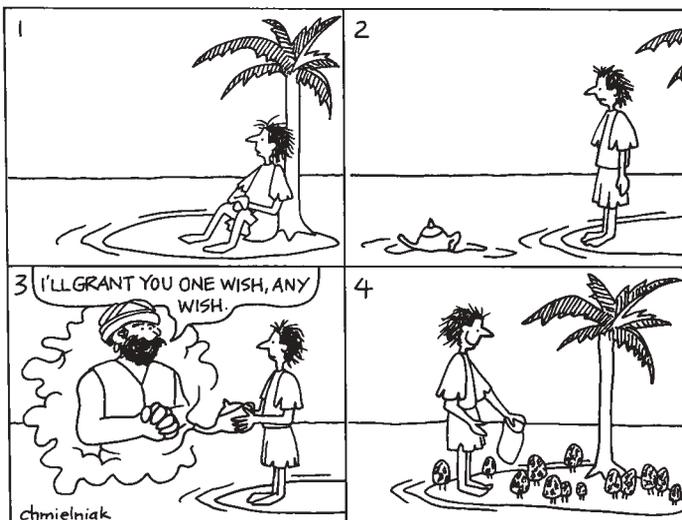
a moment in our lives that alters our path and sets us off in a new direction. Look back, and I'll bet you can recognize an insight or a chance encounter that you believe is responsible for who you are and how you make your living.

I was 10 years old when the moment occurred that would lead me to become a conservation agent. As my father and I were hunting rabbits one winter morning, a conservation agent approached us. The agent looked at the rabbits we had shot and then checked my dad's hunting permit,

He then stayed around and made small talk. I was intrigued by his uniform and was impressed by his deep, authoritative voice. Before he left, the agent shook my father's hand and my hand. On the way home, I asked my dad who that man was, why was he there, and how he found us.

By the time I entered high school, I pretty much knew that I wanted to become a conservation agent. Throughout college, I learned more about who and what conservation agents are. I found out that they wear many different hats. Certainly, their job is to enforce Missouri's *Wildlife Code*, but they also have to know a lot about all facets of conservation. Agents are the primary conservation contact for many people and constantly have to answer questions about almost all conservation subjects, from fish biology to habitat management. It's a great job!

Now that I have been a conservation agent for a few years, I sometimes refer back to that crystal clear, winter morning when I was 10, and wonder if I have made the same impression on another youngster. I hope so. — *Mike Abdon*





Program Schedule

Television the way Nature intended!

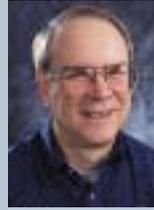
Broadcast Stations

- Cape Girardeau** UPN "The Beat" WQTV / Sat. 8:30 a.m., Sundays 7 a.m.
- Columbia** KOMU (Ch 8 NBC) / Sundays 11 a.m.
- Hannibal** KHQA (Ch 7 CBS) / Saturdays 11 a.m.
- Joplin** KOZJ (Ch 26 PBS) / Saturdays 2 p.m.
- Kansas City** KCPT (Ch 19 PBS) / Sundays 7 a.m.
- Kirksville** KTVO (Ch 3 ABC) / Saturdays 5 a.m.
- St. Joseph** KQTV (Ch 2 ABC) / Weekends, check local listings for times
- St. Louis** KSDK (Ch 5 NBC) / Sundays, 4:30 a.m.
- Springfield** KOZK (Ch 21 PBS) / Saturdays 2 p.m.
- Warrensburg** KMOS (Ch 6 PBS) / Sundays 6:30 p.m.

Cable and Low Power Stations

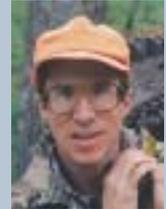
- Branson** Vacation Channel / Fri., Sat. 8 p.m.
- Brentwood** Brentwood City TV, BTV-10 / Daily 4 a.m. & 5 p.m.
- Cape Girardeau** Charter Cable Ed. Ch. 23 / Thursdays 6 p.m.
- Chillicothe** Time Warner Cable Channel 6 / Thursdays 7 p.m.
- Hillsboro** JCTV / Mondays 12 p.m. & 6 p.m.
- Independence** City 7 / Thurs. 2 p.m., Sat. 10 a.m. & Sundays 8 p.m.
- Joplin** KGCS / Sundays 6 p.m.
- Mexico** Mex-TV / Fridays 6:30 p.m., Saturdays 6:30 p.m. & Sundays 6:30 p.m.
- Noel** TTV / Fridays 4:30 p.m.
- O'Fallon** City of O'Fallon Cable / Wednesdays 6:30 p.m.
- Parkville** City of Parkville / First and third Tuesdays of the month 6:30 p.m.
- Perryville** PVTV / Mondays 6 p.m.
- Poplar Bluff** City Cable Channel 2 / Tuesdays 7:30 p.m. and Saturdays 10 a.m.
- Raymore** Govt. Access-Channel 7 / Various, check local listings for times
- Raytown** City of Raytown Cable / Wed. 10 a.m. & Saturdays 8 p.m.
- St. Charles** City of St. Charles-Ch 20 / Tues. 5 p.m. and Wed. 10 a.m.
- St. Louis** Charter Communications / Saturdays 10:30 a.m.
- St. Louis** City TV 10 / Mondays 11:30 a.m., Wednesdays 3:30 p.m.
- St. Louis** Cooperating School Districts / Wednesdays 9 a.m.
- St. Louis** DHTV-21 / Mondays 10:30 a.m.
- St. Louis** KPTN-LP/TV58 / Thursdays 10 a.m.
- St. Peters** City of St. Peters Cable / Various, check local listings for times
- Ste. Genevieve** Public TV / Fridays 1 p.m., 6 p.m. & 12 midnight
- Springfield** KBLE36 / Saturdays 8:30 p.m.
- Sullivan** Fidelity Cable-Channel 6 / Wed. 11 a.m. and Fri. 7 p.m.
- Union** TRC-TV7 / Tuesdays 3 p.m.
- West Plains** OCTV / Mondays 6:30 p.m.

Meet our Contributors



Jim Auckley, a freelance writer and editor, retired from the Conservation Department after many years of service. He is an avid fly tier and angler. He and his wife, Carolyn, live near Jefferson City.

Freelance outdoor writer **Mark Goodwin** lives in Jackson and teaches biology at Jackson Senior High School. He enjoys a wide variety of outdoor recreation and spends the bulk of his free time with family and friends in the Missouri Ozarks.

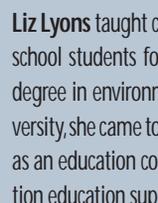


Lonnie Hansen has studied deer and been involved in their management for over 20 years, 15 of that as a Conservation Department wildlife research biologist. He enjoys hunting and fishing and managing the flora and fauna on his property north of Columbia.

Bill Heatherly has been a wildlife programs supervisor at the Conservation Department's office in Jefferson City since 1997. He previously spent two years as an urban wildlife specialist resolving deer and other wildlife-related problems in the Kansas City area.



A native of Jefferson City, **Beverly Letchworth** is a freelance writer living in St. Louis, where she teaches creative writing at Meramec College. Her book, "Leafbird Days and Firefly Nights: Personal Renewal Through Nature Journaling," was recently published by Pen Central Press.



Liz Lyons taught communication arts and science to middle school students for four years. After receiving her master's degree in environmental science from Oklahoma State University, she came to the Missouri Department of Conservation as an education consultant. Lyons now works as a conservation education supervisor in the St. Louis Region.



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Prairie paint

In springtime, the prairies of Missouri explode with reds, oranges and yellows as Indian paintbrush blooms. The intense color comes from bracts that surround the plant's small, inconspicuous flowers. This photo was taken at Paint Brush Prairie Natural Area, south of Sedalia. — *Jim Rathert*